

**MALE GERM CELL CHROMOSOMES IN
ELATTONEURA ATKINSONI (SEL.) FROM AS-
SAM, INDIA (ZYGOPTERA: PROTONEU-
RIDAE)**

The adult males were collected at Jowai, Assam,

during April-May 1991, the slides were made according to the method described by R. SANDHU & G.K. WALIA (1994, *Fraseria* [NS] 1: 11-14).

At spermatogonial metaphase, there are 25 elements, including an *m*-pair and the X. The latter is the smallest of the set. During meiosis I, there are no peculiarities, a single chiasma appears across each of the 12 bivalents (cf. Fig. 1).

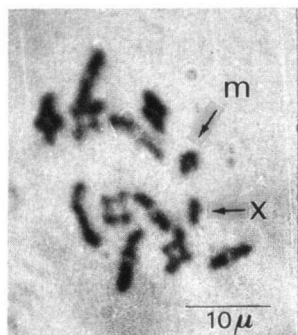


Fig. 1. (Sel.), carbol fuchsin squash: late spermatocyte diakinesis.

R.B. CUMMING (1964, *Cytogenetic studies in the order Odonata*, PhD diss. Univ. Texas, Univ. Microfilms 64-11, 789) reported haploid chromosome numbers in 2 Bolivian species, viz. *Epipleoneura* sp. ($n \delta=14$, *m*; based on counts from metaphase II) and *Neoneura rubriventris* ($n \delta=14$). On the strength of this evidence, B. KIAUTA (1975, *Cytotaxonomy of dragonflies, with special reference to the Nepalese fauna*, Nepal Res. Cent., Kathmandu) suggested $n=14$ as a tentative family type number in Proto-neuridae. Later, however, B.K. TYAGI (1978, *Chrom. Inf. Serv.* 25: 5-7) recorded $2n=25$, *m* in the spermatogonial complement of *Caconeura autumnalis* from Dehra Dun in northern India. This was confirmed by B. KIAUTA & M. KIAUTA (1982, *Notul. odonatol.* 2: 27-28; sub *Prodasineura*, $n \delta=13$, *m*, from Thailand) and 2 more Thai *Prodasineura* species were added (both $n \delta=14$, but no *m*). No micrographs were ever published.

As it goes from the above, *E. atkinsoni* is the sixth member of the family so far examined cy-

tologically. In all Old World species the chromosome number is $n \delta=13$ (whether or not including an *m*-bivalent), therefore more material will have to be studied, particularly also the neotropical taxa, before the family modal number can be ascertained.

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